

Title (en)  
Display device

Title (de)  
Anzeigevorrichtung

Title (fr)  
Dispositif d'affichage

Publication  
**EP 0599462 B1 19980422 (EN)**

Application  
**EP 93307729 A 19930929**

Priority  
JP 31541692 A 19921125

Abstract (en)  
[origin: EP0599462A1] A liquid crystal display device provides two substrates (11a, 11b), a display medium (20), a plurality of light waveguides (Y), a plurality of signal wires (X), and a plurality of light switching elements (15), being provided at crosspoints between said plurality of light waveguides (Y) and said plurality of signal wires (X). On the clad layer (12) of the light waveguide (Y), the p-type (51) and the i-type (52) of the a-Si:H are laminated. On one end of the top of the i-type (52), the n-type (53) is overlapped with part of the signal wire (X). On the other end of the top of the i-type (52), the n-type (53) is overlapped with the drain electrode (4b). On the drain electrode (4b), a pixel electrode (4a) is formed. That is, the light switching element (3) has an element structure in which nipin type back-to-back diodes (3a) and (3b) composed of two pin type diodes series-connected in reverse are ranged in parallel toward light transmission. Hence, the same light signal is transmitted to these two back-to-back diodes (3a) and (3b). This structure of light switching element (3) makes it possible to offer a completely symmetric switching characteristic against voltage and realize a more simply-designed switching element and high display performance and reliability. <IMAGE>

IPC 1-7  
**G02F 1/135**; **G02F 1/136**

IPC 8 full level  
**G02F 1/136** (2006.01); **G02F 1/135** (2006.01); **G02F 1/1365** (2006.01)

CPC (source: EP US)  
**G02F 1/1354** (2013.01 - EP US); **G02F 1/1365** (2013.01 - EP US)

Cited by  
WO03038791A3

Designated contracting state (EPC)  
DE FR GB NL

DOCDB simple family (publication)  
**EP 0599462 A1 19940601**; **EP 0599462 B1 19980422**; DE 69318109 D1 19980528; DE 69318109 T2 19981029; JP 2915724 B2 19990705; JP H06160909 A 19940607; US 5657056 A 19970812

DOCDB simple family (application)  
**EP 93307729 A 19930929**; DE 69318109 T 19930929; JP 31541692 A 19921125; US 46539495 A 19950605